



SUBSTITUTE SPECIFICATION - MARKED UP COPY

A METHOD FOR SAFELY ENCRYPTING TRANSMISSION DATA

1. Field of the Invention

5 [0001] The present invention relates to a method for safely encrypting transmission data, which is applied on a personal digital assistant (PDA) or a mobile phone handset for capturing data.

2. BACKGROUND OF THE INVENTION

10 [0002] With the ~~application~~advent of the Internet, ~~the~~ electronic commerce is widely used and discussed. Especially, ~~the~~The connection of wireless handsets and personal digital assistant (PDA) to a network is now a trend. The ~~manufacturer~~manufacturers of ~~handset~~handsets and PDA ~~make their best in the development of PDA's have created~~ novel handsets for ~~being applied to the connection of~~connecting to a wireless network through wireless transmission.
15 For example, the current wireless application protocol (WAP) is widely used in the connection of a handset to a network. ~~The related~~Related products are also popular in the market. ~~Therefore, to wirelessly capturing data through a handset or a PDA is a trend and is widely used recently.~~

20 [0003] However, the current ~~way for wirelessly~~method of wirelessly capturing data through ~~an~~the Internet ~~has no function of~~lacks encryption. Referring to Fig. 4, 1 is a schematic view showing that a prior art method in which a user acquires data from an Internet by a prior art way without encryption. As shown in Fig. 1, the subscriber's end 10 ~~is to download~~downloads data on a network 30. In
25 general, the data is downloaded through ~~an~~the Internet directly. After downloading, the data is transferred to other ~~people~~users.

[0004] ~~That is,~~ This prior art method allows any one ~~may~~to download data ~~or~~(or a member acquired a password or an encrypting code can download ~~data~~data). However, in the aforementioned prior art process of being connected
30 ~~to a network for acquiring data, no way can be used to confine~~exists to prevent

the user to ~~download from downloading~~ data repeatedly. That is, it is possible that one download of data ~~is~~ can be used by many people. ~~Therefore, this~~ This is unfair to the original creator ~~and disobeys the rule of wisdom asset of the~~ download data. Consequently, ~~this condition is necessary to be improved~~ there is a need for improvement.

[0005] Therefore, there is an eager demand for a method for safely encrypting transmission data, which can be used inon the Internet. ~~The download data is only used by specific users and can not be transferred to other peoples. Thus, the data is encrypted effectively.~~

SUMMARY OF THE INVENTION

[0006] Accordingly, the primary object of the present invention is to provide a method for safely encrypting transmission data, which is used in a personal digital assistant (PDA) or a mobile phone handset for wirelessly capturing data. The primary object of the present invention is to provide a safety ~~safe~~ encrypting method. After the user downloads data from a network, the data is encrypted and then is transferred to the user. The user decrypts the data through a player or an access device for playing the data downloading from a network. The described access device ~~is~~ is, for ~~example~~ example, an MP3 music database, an electronic book, a network theater, etc.

[0007] In the encryption ~~way~~ method of the present invention, the general ~~series~~ serial number is used as an encrypting key in the encryption, or a further identification number or the registering number of a company can be used. The encrypting key is only used by the access device of the user for decrypting the encrypted data. That is, the user's download data ~~of the user~~ is only used by that user, which can not be transferred to other peoples so as to protect the ~~right~~ intellectual property rights of the original creator.

[0008] To achieve the aforesaid object, the present invention provides a method for safely encrypting transmission data, wherein an access device ~~serves to be connected~~ connects to the subscriber's end of a network, and the ~~series~~ serial number of the access device is used as encrypting key. Thus, the data acquired from a network is encrypted. For the users to download data, the download data is only used through the access device of the user, and other

~~user can not~~users cannot use the data on other devices. Therefore, ~~the objects of paying fees by users and encrypting transferring data are achieved~~each user can be charged for each download.

[0009] Preferably, a method for safely encrypting transmission data is used
5 in the playing of MP3 music through a network. By connecting through an access device, the ~~series~~serial number of the access device ~~being~~is used as an encrypting key for decrypting the encrypting data. The user at first inputs the required data and ~~series~~serial number; ~~by through a servo~~server of a network. ~~Data of music~~Music data in a database is downloaded and then is encrypted.
10 Then the data is transferred back to the user. Then, the user downloads the data to an MP3 player for playing the music.

[0010] Preferably, a method for safely encrypting transmission data is used
in the playing of electronic book through a network. By connecting through an access device, the ~~series~~serial number of the access device ~~being~~is used as an
15 encrypting key for decrypting the encrypting data. The user at first inputs the required data and ~~series~~serial number. ~~By a servo~~Through a server of a network, data of an electronic book in a database is downloaded and then is encrypted. Then the data is transferred back to the user. Then, the user
20 downloads the data to an electronic book player for playing the contents of the electronic book.

[0011] The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF DRAWINGS

25 [0012] Fig. 1 is a schematic view of a method for capturing data from ~~an~~the Internet by a user in the prior art design.

[0013] Fig. 2 is a schematic view showing the concept ~~for~~of encrypting the transferring data of a network in the embodiment of the present invention.

[0014] Fig. 3 is a flow diagram showing the process and use for the
30 transferring data of the network in the embodiment of the present invention.

[0015] Fig. 4 is a schematic view showing an embodiment that ~~theis a~~ method for safely encrypting the transmission data ~~of the present invention is~~ used in the playing of the network MP3 music.

5 [0016] Fig. 5 is a schematic view showing an embodiment that ~~theis a~~ method for safely encrypting the transmission data ~~of the present invention is~~ used in the playing of the network electronic book.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] The present invention relates to a method for safely encrypting transmission data, which is primary used in a personal digital assistant (PDA) and a handset used in a mobile phone. Through the present invention, a method for safety encryption is provided; ~~after~~. After the user downloads data from a network, the data is encrypted and then is transferred to the user. The user decrypts the data through a player or an access device for playing the data downloading from a network. The described access device ~~isis~~, for
10 ~~exampleexample~~, an MP3 music database, an electronic book, a network theater, etc.
15

[0018] Referring to Fig. 2, a schematic view ~~showing the concept about is~~ shown to illustrate the method for safely encrypting transmission data of the present invention ~~is illustrated herein. In that, the~~. The data 30 in the network is
20 ~~encrypted further transferred~~ (22). Then encrypted data is generated (40). Then, the data is transferred to the subscriber's end 10 through an Internet 20. The subscriber's end 10 is for example a handset of a mobile phone, or a personal digital assistant (PDA) which can captures the data from the network directly without needing to be connected to a computer. Therefore, ~~it is matched to the~~
25 ~~requirement of a late PC age, i.e. an age of no PC. the invention does not~~ require a PC. The work of networking is only performed through a PDA.

[0019] In order to realize the aforesaid encryption work, in the present invention, the user's access device is connected to the subscriber's end of the network. The ~~series~~serial number of the access device is used as an encrypting
30 key for encrypting data ~~of networks from the network~~ so that the encrypted data can be downloaded only by the access device with the specific ~~series~~serial number. Other end ~~users~~users, without being connected to this access device

~~can not, cannot~~ use these data. The access device is an network connecting device for data transmission used by networks, which may ~~be be~~, for ~~exampleexample~~, an MP3 music player or an electronic book which can downloaded data or upload data to the network for being used by specific users.

5 Therefore, the access device is not confined to the use of PC, ~~whichand can be is~~ preferably a personal digital assistants (PDA) or mobile phone handsets instead.

[0020] The method for safely encrypting transmission data in the present invention is illustrated in Fig. 3. ~~The~~ Fig. 3 shows an embodiment of the present invention ~~which is a process about the method for safely encrypting transmission~~ data. The user is connected to a ~~servo~~server (step 100). Then, ~~the~~ user inputs a ~~series~~serial number to an access device (step 110). The ~~servo~~server encrypts the captured data according to the encrypting key generated from the ~~series~~serial number, and then the decrypt is transferred to the access device (step 120). The user transfers the downloading data to the access device 130
10 himself (or herself). Then, the access device decrypts the receiving data and uses the data (step 140). By the aforesaid steps, the data transferred in the network is encrypted. ~~The~~This decryption is performed by only by specific access devices ~~for being used~~. Therefore, ~~the effect of encryption in of data on~~ a network is achieved.

20 [0021] The method for safely encrypting transmission data in the present invention can be used in the playing ~~the of~~ MP3 music. ~~About this, referring~~ Referring to Fig. 4, a schematic view ~~about~~shows an embodiment ~~that the of the~~ of the encrypting method of the present invention is used ~~to the for~~ playing of MP3 music ~~is illustrated herein~~. In this embodiment, the user 50 ~~is a connection~~
25 connects using an access device and the seriesserial number of the access device (S / N) is used an encrypting key for network encryption. The access device is a MP3 music player 56.

[0022] With reference to Fig. 4, the user 50 at first inputs the required data and the ~~series~~serial number (arrow A). By the ~~servo~~server 52, the data in the
30 database 54 is downloaded (arrow B). Then, the data is encrypted according to the ~~series~~serial number and then is transferred back to the ~~user~~user's device 50 (arrow C). Then, the user 50 downloads the data from the device 50 to a MP3 player 56 (arrow D) (which can also be incorporated in the access device) for playing music ~~about from~~ the data. Therefore, the encrypting ~~method of the~~
35 ~~present invention applied to of~~ MP3 data over a network for an MP3 player is

accomplished. The aforesaid access device may be a network connecting device for transferring data used in a network. The data can be downloaded or uploaded to a network for being used by specific users.

[0023] Similarly, the method of the present invention can be further used to the data encryption of ~~the an~~ electronic book in an Internet, as illustrated in Fig. 5. In Fig. 5, the user ~~60 in advance~~ 60, in advance, inputs the required data and ~~series~~ serial number (arrow a) in a device 60. By a ~~servo~~ server 62 in the network, the electronic book in the database 64 is downloaded (arrow b), and then the data is encrypted according to the ~~series~~ serial number and then is transferred to the ~~user~~ user's device 60 (arrow c). Then, the user downloads ~~these~~ the data from the device to an electronic book player 66 (which can also be incorporated in the access device) for decrypting the data ~~for~~ and playing the content of the electronic book. Similarly, the access device ~~is~~ can be a network connecting device for data transfer used in general networks, which can download data or upload data to a network for being used by specific users.

[0024] In summary, the method for safely encrypting transmission data of the present invention provides the function of encrypting the transferring data through the Internet for avoiding that the ~~data is downloaded~~ data from once but being used by many peoples ~~through many times~~. Therefore, the object of ~~paying fees by users~~ charging each user for a download is achieved.

[0025] Although the present invention has been described with reference to the preferred embodiments, it will be understood that the invention is not limited to the details described ~~thereof~~ herein. Various substitutions and modifications have been suggested in the foregoing description, and others will occur to those of ordinary skill in the art. Therefore, all such substitutions and modifications are intended to be embraced within the scope of the invention as defined in the appended claims.